

APPARATUS AND METHOD FOR DRYING SOLUTIONS CONTAINING MACROMOLECULES

ABSTRACT OF THE DISCLOSURE

An apparatus and method for quickly drying solutions in one or more arrays of vessels includes a manifold that receives gas and a base plate that receives the one or more arrays of vessels. The manifold includes one or more hollow tubes that direct the gas into the vessels, where the gas evaporates the solutions. A variety of types of hollow tubes are disclosed. In an exemplary embodiment, the gas is filtered, pressurized and/or heated. In an exemplary embodiment, the solutions are heated. The base plate is hingeably coupled to the manifold so that the base plate has an open position and a closed position. The open position permits users to place and remove the vessels that contain solutions to be dried. In the closed position, the base plate and the manifold are in sealing engagement with one another, wherein the one or more of the hollow tubes extend into the vessels. A unique hinging system is disclosed that couples one or more base plates to a base so that, when the base plate is in the open position, the base plate is substantially horizontal. When the base plate is in the closed position, it is tilted at an angle so that the vessels are tilted at the angle, providing the solutions to be dried with a greater surface area. A variety of optional vapor recovery systems are disclosed. A variety of open loop and closed loop electrical control systems are disclosed.